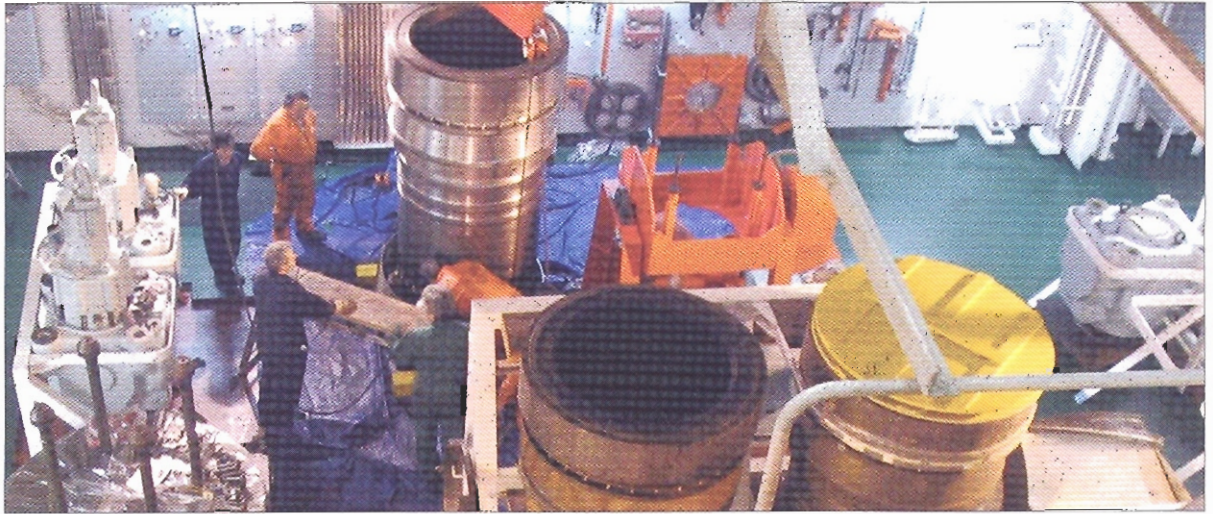


Navigating the risk management stereotype

Kittiwake Developments looks at the benefits of liner monitoring



Monitoring cylinder liner condition can provide a key to reducing lubricating oil costs, a substantial item for shipowners

Amid the current climate of volatile and fluctuating oil prices as well as environmental scrutiny, ship owners now find themselves in the throws of navigating the current economic tempest, facing previously unseen pressures from uncertain fuel costs and stringent maritime regulations and legislation. The effects of the continuing global credit squeeze have prompted scrutiny of every area within the supply chain for potential cost saving – some which involve stripping out costs and others that focus on investment to realise efficiencies – each of which have to be weighed-up as part of a ship operator's holistic risk management strategy.

It is widely agreed that bunker fuel costs now represent over 50% of a ship's total operating costs, depending on the type of ship and service. Bunker prices have risen on average fourfold since 2005; if O380 in Rotterdam passing US\$700 per tonne in July. And while current bunker prices may provide operators with some relief from spiralling costs, there is no doubt that fuel price fundamentals are inextricably rising. Lubricant prices have been hit by a 'perfect storm' scenario again in 2008 of lowering product availability and soaring demand. In July, Lubmaxime, the lubricants arm of oil major Total said that the situation meant that Group 1 base oils are in deficit, with heavy Group 1 base oils for the marine industry being particularly difficult to find.

Bunker fuel and lubricant prices are

constantly changing and are impacted by a plethora of different external factors, the majority of which are beyond the control of ship operators. Shipowners are therefore being urged to implement a hedging strategy as a risk management tool, limiting the impact of high bunker prices by securing a margin and cash flow. But there are other, more practical risk management tools that can be adopted to mitigate risk. Often in times of uncertainty it is the money saved rather than the money made that ensures safe passage through stormy waters, so maximising vessel performance to increase efficiencies and prevent unwanted downtime is as critical as ever.

It is obvious that prevention of engine failure can save operators millions of dollars, whilst it also negates the very real danger of a large ocean-going vessel running aground or drifting in and around potentially hazardous areas, such as highly populated city ports. Products such as Kittiwake Developments' LinterScan monitor liner-wear in two stroke main engines to report the very early onset of severe erosion. LinterScan sensors are fitted to each cylinder of the vessel engine and, using magnetometry, continually monitor the scrapedown oil for ferrous wear. Multiple output options and bespoke software provide the onboard engineers with actionable and trendable readings which can be used to improve main tenance scheduling, decrease sampling and testing costs, minimise liner wear and detect ingress of CAT lines.

Whilst improving engine reliability, LinterScan also optimises the cylinder lubricant feed rate – reducing cost and potential problems from liner

lacquering or bore polishing due to over dosage of the cylinder oil. An average container ship can spend tens of millions of dollars on cylinder lubrication over its lifetime and during trials, feed rate reduction of up to 40% was achieved using LinterScan, representing annual savings of over \$100,000, paying for the investment in just months.

In October 2008, ExxonMobil released engineering reports from Kristen Navigation relating to its tanker, the 156,408 DWT *Astro Cygnus* stating that it has reduced cylinder oil usage by circa 10%, without compromising cylinder wear, realising estimated annual savings of \$93,000 per annum. This is a direct result of implementing ExxonMobil's feed rate optimisation programme, which uses a Mobilgard Scrapedown Analyser (MSA) to detect changes in the condition of a cross-head marine diesel engine's cylinders. The MSA uses similar magnetometry principles to LinterScan.

They say that smooth seas don't make a skilful sailor, and for those with the right attitude and approach, the tough trading conditions forecast for 2009 could actually make shipping operations leaner, more efficient and more robust. The obvious financial connotations of risk management will not diminish in importance, but it is vital that companies take an holistic approach and explore every opportunity for maximising margins and increasing profitability; minimising downtime and increasing efficiencies is a central part of this and will certainly offer greater stability for the future, whatever it might bring.